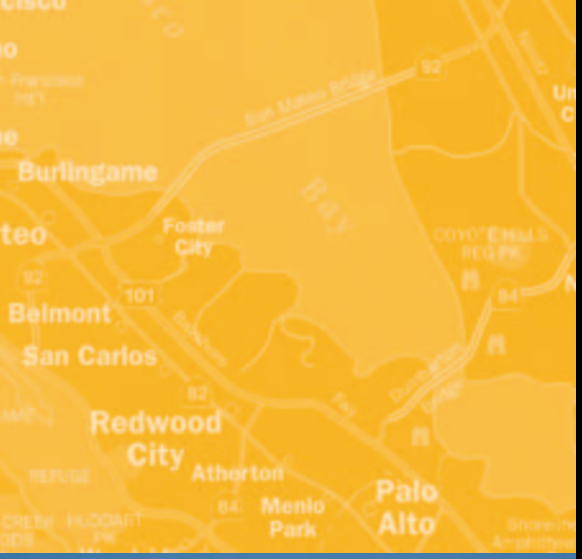
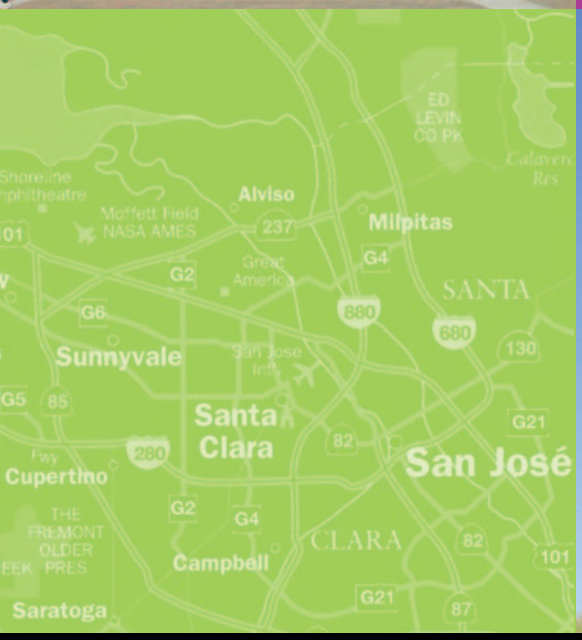
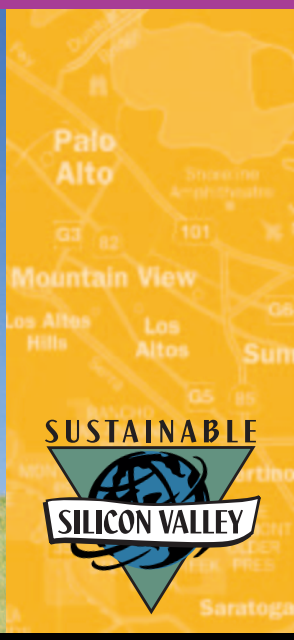


Sustainable Silicon Valley

CO_2 Report 2005





SAVE ENERGY • SAVE MONEY • HELP THE ENVIRONMENT

Publication of the Sustainable Silicon Valley CO_2 Report 2005 is made possible by generous contributions from the following Sustainable Silicon Valley partners:

Bay Area Air Quality Management District

Bay Area Air Quality Management District

Pacific Gas and Electric

PG&E Pacific Gas and Electric Company®

NASA Ames Research Center

NASA

ALZA

alza

Published by
Sustainable Silicon Valley
www.SustainableSiliconValley.org

"The goal of [Sustainable Silicon Valley's CO_2 initiative] is to reduce carbon dioxide emissions in the region to 20% below 1990 levels by 2010. This is exactly what we need, and it has to be done."

–Senator Dianne Feinstein, speaking to the Silicon Valley Leadership Group Public Policy Luncheon in San José, August 22, 2005.

"Every day there is new evidence that global warming is having a dramatic effect on our planet. Santa Clara County's participation in Sustainable Silicon Valley is one way that we are addressing this global problem at the local level. Joining Sustainable Silicon Valley reaffirmed the County's commitment to reducing energy consumption for the health and future of Santa Clara County residents."

"The strength of this program is that it stresses voluntary participation, allowing businesses and local governments to find innovative solutions to reduce the ecological footprint we leave on the planet. By implementing simple energy saving technologies and practices, the County has already reduced its energy consumption by 20% from 2001 levels. Sustainable Silicon Valley provides an opportunity to share how we've achieved this, and a resource for further reducing our energy needs."

–Supervisor Liz Kniss, Chair of the Santa Clara County Board of Supervisors.

"I am very happy that in nearby Silicon Valley, dozens of companies have committed to reducing their emissions even faster than the state-wide goals. So, I am very proud of California's leadership in the fight against global warming. …And I challenge everyone to match our commitment because I see California as an environmental partner not only with our nation, but with nations everywhere."

–Governor Arnold Schwarzenegger, announcing California's own greenhouse gas reduction goals at World Environment Day in San Francisco, June 1, 2005.

INTRODUCTION

Sustainable Silicon Valley (SSV), its partners and supporters, are demonstrating how a collaborative partnership taking actions to support a common goal can yield significant results. These results prove that partnerships, even between traditional 'adversaries,' are not only possible, but are powerful mechanisms for positive change.

Organizations that are establishing energy and emissions reduction goals are operating in the context of significant economic pressures. At the same time, scientific experts are documenting the correlation between human activities and the increase in carbon dioxide emissions. We are influencing the global climate, in ways we are now seeing, but with outcomes and potential risks we do not fully comprehend. Organizations may be motivated by environmental, economic and social factors to varying degrees, but all share the common objective of wanting to do a better job.

This first annual report describes the SSV program and places the goals, efforts and progress made by the first group of participating organizations in the Silicon Valley region in the context of the energy use and emissions trends of the region as a whole. Pledging partners in Sustainable Silicon Valley are addressing the critical climate change issue, while saving themselves millions of dollars.

We hope this summary and these testimonials inspire others to join us, and encourage leaders in other regions to take up the challenge. This report is dedicated with gratitude to these organizations and the champions within them.

Jennifer Smith Grubb
Executive Director and President of the Board,
Sustainable Silicon Valley

Peter Melhus
Treasurer, Sustainable Silicon Valley
Chair Emeritus–Silicon Valley Environmental Partnership
Instructor, San Jose State University

Margaret Bruce
Chair of the Board, Sustainable Silicon Valley
Director, Environmental Programs, Silicon Valley Leadership Group

Peter Melhus, Jennifer Smith Grubb and Margaret Bruce after receiving a commendation for SSV from the City Council of San José on March 30th, 2004.

TABLE OF CONTENTS

EXECUTIVE SUMMARY

In Sustainable Silicon Valley's (SSV's) first Annual Report, results of the carbon dioxide (CO_2) emissions reduction initiative to date are detailed. SSV is a partnership between business, government, non-governmental organizations and academia that seeks cooperative solutions to the environmental challenges facing the greater Silicon Valley region. SSV has grown tremendously in the past year, bringing in new partners pledging to reduce their CO_2 emissions, welcoming numerous volunteer staff members, and incorporating as a public benefit corporation. Nineteen pledging partners have contributed their results to this report.

SSV's regional CO_2 goal calls for a 20% reduction in CO_2 emissions below 1990 levels by the year 2010. Pledging partners contribute to this goal by setting their own voluntary goals to reduce energy use and CO_2 emissions, and determining how best to meet their goals. Through quarterly educational forums featuring technical experts, resources from utilities, scientific experts and other sources of support and information, as well as workgroup meetings and informal networking sessions, pledging partners share best practices and learn how others are achieving significant results. SSV helps organizations save energy, save money, and help the environment.

The results speak for themselves. For example, Akeena Solar no longer buys any grid-electricity at all, thanks to its newly installed photovoltaic system. Cisco Systems reduced its CO_2 emissions by 23.3 million pounds per year by building in energy efficiency at the design phase and fostering cross-functional collaboration in the company. The City of San José has saved over $13 million since 2001, thanks to behavioral changes and investments in energy efficiency.

As a group, the SSV partners who have pledged to reduce their CO_2 emissions have already made a significant difference to the environment. The total aggregate amount of CO_2 emissions avoided since each partner's baseline year is 743,522,351 pounds. This is equivalent to removing 233,530 homes from the electricity grid for one year or taking 73,000 cars off the road for one year.

SUSTAINABLE SILICON VALLEY

SSV CO_2 Reduction Initiative: Pledging Partners

Acterra
Agilent Technologies, Inc.
Akeena Solar
ALZA Corporation
Bay Area Air Quality Management District (BAAQMD)
Calpine Corporation
Cisco Systems
City of Palo Alto
City of San José
County of Santa Clara
Hewlett-Packard Company (HP)
LifeScan, Inc.
Lockheed Martin Space Systems Company
NASA Ames Research Center
Oracle
Pacific Gas and Electric Company (PG&E)
Roche Palo Alto
Santa Clara Valley Water District (SCVWD)
Sierra Club Loma Prieta Chapter

Key Achievements

Pledging Partners have saved over $20 million

Akeena Solar: No longer buys electricity.
Cisco Systems: Saved $4.5 million per year in operating costs.
City of Palo Alto: Energy management software implementation alone saves more than $17,000 in energy costs each year.
City of San José: Reduced energy bill by more than $13 million since 2001.
LifeScan, Inc.: Milpitas and Cabo Rojo sites yield $1.3 million of cost savings per year from energy conservation projects.
Roche Palo Alto: Palo Alto site saved more than $2.5 million between 2000-2004.

CO_2 Emissions Reductions & Energy Savings

Acterra: Cut energy use by 66% and natural gas use by 30% in two years.
ALZA Corporation: Set a target of 7% absolute CO_2 emissions reduction by 2010 (1990 base year).
Cisco Systems: Reduced CO_2 emissions by 23.3 million lbs. per year. This equals removing 2,300 cars from the road.
County of Santa Clara: CO_2 emissions cut by 12.7 million lbs. between 2001 and 2004.
LifeScan, Inc.: Reduced CO_2 emissions by 22.4% by 2005 (2001 base year).
Lockheed Martin Space Systems Company: Purchased 1.2 million kilowatt hours (kWh) of renewable energy in 2004.
NASA Ames Research Center: Targeting CO_2 emissions reductions of 30% below 1990 levels by 2010.
PG&E: Energy efficiency partnership programs have distributed over $57 million dollars in rebates and achieved energy savings of 117 megawatts (MW) or 620,000 megawatt hours (MWh)–enough energy to power more than 91,000 homes for a year.
SCVWD: Photovoltaic system reduces CO_2 emissions by more than 450,000 lbs.

Total CO_2 emissions avoided by SSV Pledging Partners is 743,522,351 lbs.

This is equivalent to:

- removing 233,530 homes from the electricity grid for one year, or
- taking 73,000 cars off the road for one year.

BACKGROUND

The Sustainable Silicon Valley Story

Sustainable Silicon Valley (SSV) began in 2001 as a collaboration between government, led by the California Environmental Protection Agency (Cal/EPA), business, led by the Silicon Valley Manufacturing (now Leadership) Group (SVLG), and non-governmental organizations, led by the Silicon Valley Environmental Partnership (SVEP). Participants were invited from the entire Silicon Valley region, including Santa Clara, San Mateo, northern Santa Cruz, and southern Alameda counties.

These participants identified 35 key environmental pressures, the top six being:

- Use of energy from non-renewable sources
- Use of fresh water
- Urban sprawl
- Habitat development and fragmentation
- Use of non-renewable raw materials
- Discharges of toxic chemicals to the air

Designed to move beyond the traditional command-and-control model of environmental regulation to one of collaboration and partnership, SSV focuses on the desired outcome, above and beyond compliance-driven standards. Participants choose the methods to reach that outcome that make the most sense financially and technologically for each of them. Environmental benefits come from these outcomes, not the means used to achieve them.

SSV aims to achieve its mission through the development and implementation of a regional environmental management system or EMS. An EMS is a systematic approach to environmental management, which uses a "plan–do–check–adjust" loop to address environmental issues of concern. Environmental impacts are evaluated, after which environmental objectives and timelines for their achievement are established and prioritized. An EMS calls for a process of continual improvement. Results are monitored and reviewed regularly to determine effectiveness and the need for system adjustments. The Silicon Valley Environmental Index published by SVEP[1] provides the baseline against which to measure progress in many different areas of environmental quality.

Of the six highest priority environmental pressures, SSV's first focus is on reducing energy use. The metric adopted to track progress is carbon dioxide (CO_2) emissions.[2] SSV's regional goal is to reduce CO_2 emissions in the Silicon Valley by 20% below 1990 levels by the year 2010. The Kyoto Protocol,[3] by comparison, proposed a 5% reduction worldwide over the same period. California Governor Schwarzenegger recently called for California to reduce greenhouse gas emissions to 2000 levels by 2010, to 1990 levels by 2020, and to 80% below 1990 levels by 2050. SSV's 20% reduction target was announced publicly in April 2003, and the first group of organizations officially pledged to join SSV in March 2004 and work toward reaching this ambitious goal.

SSV accomplishes its goals by asking its partners to make an energy management or CO_2 emissions reduction pledge; report their results annually; and share best practices. SSV provides tools and resources through its educational forum, working groups and peer-to-peer networks. Pledging partners are recognized publicly for their accomplishments.

[1] The *Index* can be found at SVEP's website at: *www.svep.org*.
[2] CO_2 emissions are being used as a proxy to measure the effectiveness of the energy use.
[3] For more information about the Kyoto Protocol, visit: *unfccc.int/resource/docs.convkp/kpeng.html*.

Sustainable Silicon Valley

VISION
A Silicon Valley with a healthy environment, a vibrant economy and socially engaged community.

MISSION
To collaborate with organizations and the community to achieve environmental sustainability in Silicon Valley.

Getting Started

Please contact Sustainable Silicon Valley at:
info@SustainableSiliconValley.org

Consult the website at:
www.SustainableSiliconValley.org

Sustainable Silicon Valley is a 501(c)3 public benefit corporation whose mission is to collaborate with organizations and the community to achieve environmental sustainability in Silicon Valley.

Contributions are tax deductible. The Federal Identification Number is 56-2464045.

A SUSTAINABLE SILICON VALLEY

CO_2 Emissions, Energy Efficiency and Climate Change

CARBON DIOXIDE REDUCTION

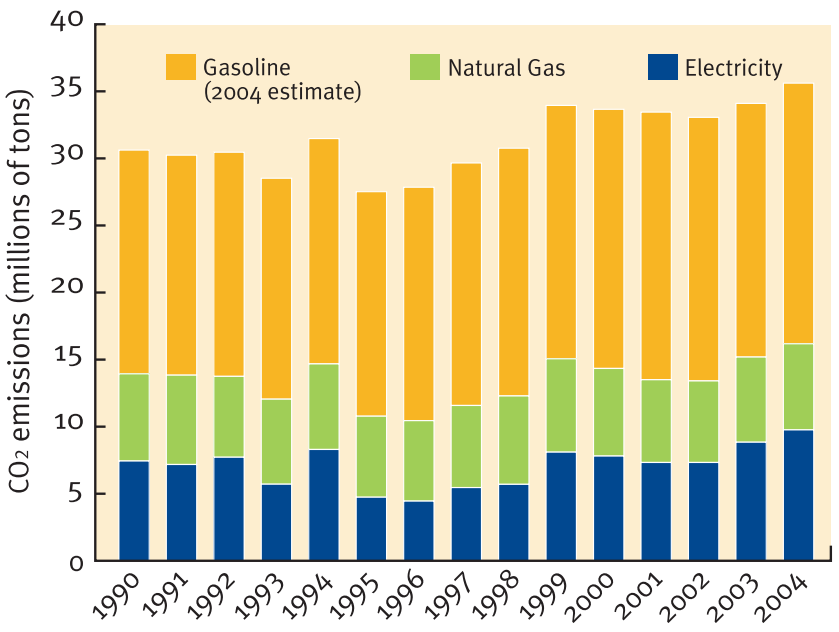
Climate change, resulting from the buildup of human-generated greenhouse gases like CO_2, is one of the most significant environmental challenges we face today. The consequences of climate change are far-reaching and will affect all of us on many levels,[4] including increasing weather variability which can lead to less rainfall and a decreased snow pack (thereby affecting water supply) as well as a rise in sea levels and flooding. Higher temperatures from global warming can also impact air quality through increased levels of ozone.

Recognizing both the importance of climate change and the need to remain competitive despite the high cost of energy in the Silicon Valley, SSV initiated a regional voluntary partnership and set a consensus-based, visionary target to reduce CO_2 emissions by 20% below the region's 1990 levels by the year 2010. Partners in SSV choose their own baseline year and set a CO_2 reduction goal to reach by 2010. Each pledging partner also chooses how to meet that target, whether by making energy efficiency improvements (e.g., new equipment), conserving energy (e.g., behavioral changes), increasing the use of renewable energy sources (e.g., photovoltaic systems), or purchasing green power. Often, a combination of measures is used. Improving energy efficiency has led to significant cost savings.

Most human-caused CO_2 results from the burning of fossil fuels such as gasoline, diesel and natural gas. In addition to burning fossil fuels directly in cars and appliances like home heating systems, people create CO_2 emissions by using electricity, most of which in the United States is generated by burning fossil fuels. Figure 1 shows the CO_2 emissions in the Silicon Valley (Santa Clara, Santa Cruz, San Mateo, and Alameda counties) due to electricity, natural gas and gasoline usage for the past 15 years. Values are based on annual electric energy and natural gas energy generation data supplied by the California Energy Commission (CEC) for the four counties. Carbon dioxide emissions have been derived using standard conversion factors from the United States Environmental Protection Agency (U.S. EPA) and from information supplied by Pacific Gas and Electric Company (PG&E) about the varying annual mix of fossil fuels used to produce electricity.

Although there is variation due to the economic downturn in the early 1990's, the trend is clearly upward. This is the challenge that SSV's pledging partners are addressing with their commitments to reduce CO_2 emissions. The value of this contribution lies not so much in the current absolute numbers describing their CO_2 emissions, but rather in their leadership and example. With no effort to reduce CO_2, as in Figure 1, emissions will continue to increase, economic fluctuations notwithstanding. SSV's pledging partners, however, show that this trend can be reversed. CO_2 emissions can be reduced over time.

CO_2 Emissions in the Silicon Valley, 1990-2004



Revised Figure 1

[4] For more information on climate change visit: The executive summary of U.N.'s Intergovernmental Panel on Climate Change (IPCC) report, at: *www.ipcc.ch/*; The National Oceanic & Atmospheric Administration (NOAA), U.S. Department of Commerce, at: *www.noaa.gov/climate.html*; The US Geological Survey (USGS) Climate Studies at: *www.usgs.gov/science/science.php?term=168*; The Frontier Research Center for Global Change (Japan) at: *www.jamstec.go.jp/frcgc/eng/*, and the World Climate Research Program (international collaborative headquartered in Switzerland) at: *www.wmo.ch/web/wcrp/wcrp-home.html*.

CARBON DIOXIDE REDUCTION

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THE CHANGING CO_2 EMISSIONS FROM SILICON VALLEY AS A WHOLE (1990-2004)

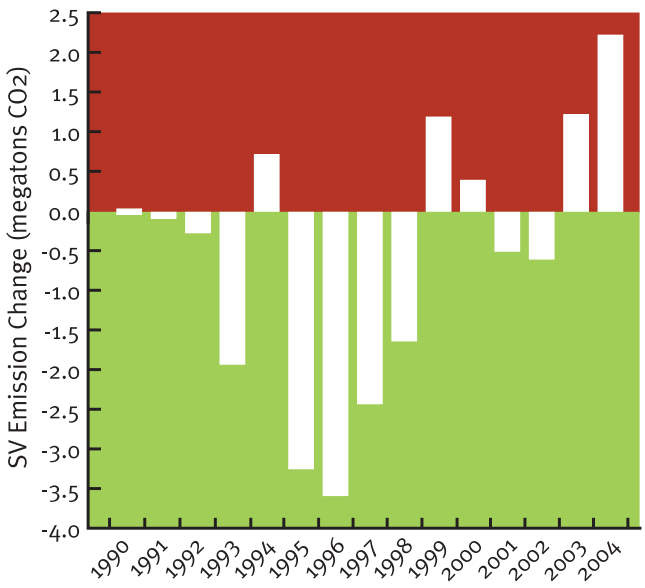

Figure 2

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CARBON DIOXIDE REDUCTION

The two graphs shown in Figures 2 and 3 compare in more detail the trends in CO_2 emissions over the past 15 years, both for the Silicon Valley as a whole, as well as for the first group of SSV's pledging partners.

Figure 2 shows the changes in the aggregate annual emissions of CO_2 for the Silicon Valley region from the year 1990 through 2004. The emissions numbers are presented as millions of tons of CO_2 per year above or below emissions in the baseline year of 1990. Figure 2 includes only stationary sources of emissions such as factories, office buildings, and homes to facilitate direct comparison with the results of SSV participants. CO_2 reductions in the mobile sector are, however, included in the SSV goal. Mobile sources such as automobiles and trucks account for more than 50% of regional CO_2 emissions, but so far, these sources have generally not been — with a few exceptions — included in the goals or reports of SSV pledging partners.

As discussed above, there was a pronounced decrease in Valley-wide carbon dioxide emissions between 1990 through 1996, reaching values 24% below 1990 emissions. This decrease coincided with the economic downturn in the region during this time period. A large rise from 1996 through 1999 brought the emissions to a level exceeding those in 1990. This rise from 1996 through 1999 parallels the strong regional "dot com" economic boom. Starting in 1999 and continuing until 2002, emissions again dropped, reflecting the "dot com" drop in the economy. Note that even at their lowest point in this period, these CO_2 emissions were still well above the values at the bottom of the previous economic downturn. After 2002, the CO_2 emissions continued to increase and are now at a level 15% above those in 1990. Both the increase in CO_2 emissions between the bottoms of the two economic slumps as well as the 15% rise in emissions in 2004 compared to 1990, highlight the overall upward trend of CO_2 emissions in the Silicon Valley.

Figure 3 presents changes in the aggregate annual emissions of CO_2 from SSV partners during the period 1990 through 2004. Amounts are presented as thousands of tons of CO_2 per year above or below emissions in a baseline year chosen by each SSV partner. Each SSV pledging partner designates a baseline year (any year from 1990 onward), an emission reduction goal relative to that year, and facilities in the Silicon Valley region to which the goal applies. The displayed aggregate carbon dioxide emission values are based on the annual reports submitted to SSV by the individual organizations,

THE CHANGING CO_2 EMISSIONS FROM SUSTAINABLE SILICON VALLEY PLEDGING PARTNERS

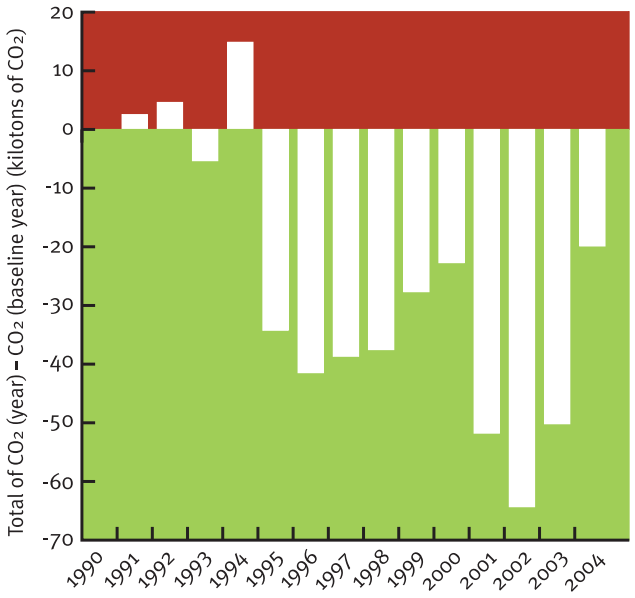

Figure 3

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TOTAL CO_2 EMISSIONS AVOIDED BY SSV PLEDGING PARTNERS IS 743,522,351 POUNDS

This is equivalent to:

- removing 233,530 homes from the electricity grid for one year,[5] or
- taking 73,000 cars off the road for one year.[6]

[5] The ratio of CO_2 emissions to kWh used is 0.47 lbs. CO_2/kWh, based on an average of the PG&E electricity energy mix for the years 1990 - 2004 (www.pge.com; www.svep.org). The average annual household energy use of 6.77 MWh/home/year is based on PG&E's 2003 calculation for Northern California, as published in PG&E's 10-K Report to U.S. Securities and Exchange Commission (www.pgecorp.com/investors/financial_reports/).

[6] This conversion is based on average gas mileage for passenger cars in 2001 of 23.9 miles per gallon and average vehicle miles traveled of 12,000 miles per year from U.S. Environmental Protection Agency's 2003 report, U.S. Inventory of Greenhouse Gas Emissions and Sinks 1990-2001, Office of Atmospheric Programs, U.S. Environmental Protection Agency, Washington, DC. EPA 430-R-03-004.

Partners' Accomplishments

Voluntary Reductions of CO_2 Emissions

PLEDGING PARTNERS

This section highlights the organizations which, as of October 2005, have pledged to participate in the SSV CO_2 emissions reduction initiative and have provided data. Businesses, public jurisdictions, municipalities and non-governmental organizations reported data on the amount of electricity and natural gas they used in their operations. This section provides a snapshot of some of the ways in which SSV pledging partners are putting their voluntary commitments to reduce their CO_2 emissions into practice. Wherever the information has been made available, a summary for each pledging organization includes the following:

- specific CO_2 reduction targets and goals;
- efforts undertaken to increase the percentage of renewable energy used, both in the form of purchasing green energy (e.g. "green tags") and building on-site installations to produce renewable energy (e.g. solar power system);
- highlights of best practices in energy efficiency through technology and behavioral changes;
- cost savings and return on investment (ROI) data;
- partnership and educational opportunities;
- highlights from each pledging organization.

Pledging Organizations Save Millions of Dollars

Several of the pledging organizations have achieved significant cost savings by implementing various energy efficiency and conservation measures. The box below highlights some inspiring examples of such economic benefits. The cumulative energy cost savings realized for the following sampling of pledging organizations totals more than $20 million.

Outstanding Cost Savings

Cisco Systems . . . . .Headquarters operations achieve energy cost savings of $4.5 million per year in operating costs.

City of Palo Alto . . .Energy management software implementation saves more than $17,000 in energy costs each year.

City of San José . . .Energy cost savings from various energy efficiency measures and affecting behavioral change add up to well over $13 million since 2001.

LifeScan, Inc. . . . . . .Milpitas & Cabo Rojo sites combined cost savings yield over $1.3 million per year.

Roche Palo Alto . . . .The Palo Alto campus saved more than $2 million in electricity costs and $780,000 in natural gas costs in the last four years.

Outstanding Energy Savings & CO_2 Emissions Reductions

Acterra . . . . . .Energy use cut by 66% and natural gas use reduced by 30% in two years.

ALZA Corporation . . . . . .Targeting 7% absolute CO_2 emissions reduction by 2010 (1990 base year.)

Cisco Systems . . . . . .Reduced CO_2 emissions by 23.3 million lbs. per year, equivalent to removing 2,300 cars per year from the road.

County of Santa Clara . . .Cut CO_2 emissions by 12.7 million lbs. between 2001 and 2004.

LifeScan, Inc. . . . . . .Reduced CO_2 emissions by 22.4% by 2005 (2001 base year)

Lockheed Martin Space Systems Company . .Purchased 1.2 million kilowatt hours (kWh) of renewable energy in 2004.

NASA Ames . . . . . .Set a goal of reducing CO_2 emissions by 30% below 1990 levels by 2010.

PG&E . . . . . .Energy efficiency programs will save 665 gigawatt hours (GWh) statewide.

Santa Clara Valley Water District . . . . .Photovoltaic system avoids more than 450,000 lbs. of CO_2 emissions.

PLEDGING PARTNERS

www.acterra.org

Lighting retrofit and behavioral changes reduced energy usage by 66% in two years.

"Acterra is pleased to join with Sustainable Silicon Valley in its inspiring efforts to bring together the local business community to address one of today's most crucial issues: the impact of carbon emissions on our global climate. Through efficiency and conservation measures and by installing a solar energy system, Acterra has significantly reduced its fossil fuel use. Finally, to meet our goal of being 'carbon neutral,' our organization is now purchasing Renewable Energy Certificates to offset our remaining CO_2 emissions."

Michael Closson,
Executive Director, Acterra

Acterra

Acterra, *Action for a Sustainable Earth*, is a non-profit educational organization, whose mission is to create local solutions that foster a healthy natural environment. Serving the Peninsula and South Bay community for over 35 years, Acterra brings people together to address current concerns through positive, informed and solution-oriented activities. Its programs include the Business Environmental Awards, Native Plant Nursery, Arastradero Preserve Restoration Project, Environmental Library and Resource Center, Sustainable Energy Program and the "Be the Change" Leadership Training Program.

Acterra becomes carbon neutral

Acterra's offices are located in the Peninsula Conservation Center (PCC), which uses just one third of the electricity used in April 2001, before the California energy crisis. This 66% reduction is due to more efficient lighting, high-efficiency air conditioning and changes in human behavior, paying careful attention to thermostat settings and turning off the lights and computers when not in use.

The building's solar electric system generates about 17% of the electricity used, and the balance comes from PaloAltoGreen[7], which is 100% renewable energy from the City of Palo Alto Utilities program.

Natural gas use at the PCC has dropped by approximately 30% as Acterra continues to focus on conservation.

2.4 kW photovoltaic system on top of Peninsula Conservation Center–the Acterra and Sierra Club Loma Prieta Chapter office building.

[7] For more information about PaloAltoGreen (PAG), the City of Palo Alto Utilities Renewable Energy option, visit: *www.cpau.com/programs/green/index.html.*

Agilent Technologies, Inc.

Agilent Technologies

www.agilent.com

Agilent delivers tools and technologies that sense, measure and interpret the physical and biological world for a wide range of customers in communications, electronics, life sciences and chemical analysis.

Focusing on technical improvements & education

To emphasize its focus on greenhouse gas reductions, Agilent converted its energy reduction goal to a CO_2 reduction goal in 2004.[8] The company's energy consumption was reduced by 5% annually from 2000 through 2004 by making technical improvements (installing more efficient chillers and pumps), improving automation of lighting controls, and educating employees on resources conservation.

Agilent's headquarters in Palo Alto, California, currently obtains 6% of its energy from solar and wind electric technologies. Thanks to its participation in PaloAltoGreen, the company avoided 222,180 lbs. of CO_2 emissions in 2004.

Agilent's Santa Clara, California facility was the first corporate sponsor of the Silicon Valley Power Neighborhood Solar Program,[9] which installs solar photovoltaic systems to help power schools and non-profit organizations.

Participation in PaloAltoGreen reduced Agilent's CO_2 emissions by 222,180 lbs. in 2004.

For 2000-2004, Agilent has achieved a company-wide annual reduction in energy use of 5%.

"Agilent's energy management program involves employees and contractors from several functions at the local level. These efforts produce cost savings and reduce Agilent's impact on the environment."

Shawn DeAngelo,
Agilent Global Energy Manager

Chris Baker, Dennis Rodriguez and Ed Maez, from Workplace Services, standing in front of more efficient chillers installed in December 2004.

[8] Visit Agilent's environmental pages: *www.agilent.com/environment/environment.html?cmpid=4417.*
[9] For more information about the Silicon Valley Power Neighborhood Solar Program, visit: *www.siliconvalleypower.com.*

PLEDGING PARTNERS

www.akeena.com

Akeena enjoys free electricity thanks to solar panels!

"Since joining SSV, we have successfully installed a 6kW solar electric system on our office and warehouse, bringing our monthly electric bill close to zero. We believe that taking advantage of one of the most ample resources in California, the sunshine, is a perfect way to positively impact the economy and environment. SSV has made us aware and provided resources on additional ways we can reduce CO_2 emissions as a small start-up company."

Barry Cinnamon
President, Akeena Solar

Akeena Solar

Akeena Solar is the largest national residential and commercial solar electric system installer in the United States. It provides design/build services to customers so that they can produce their own reliable and clean electricity directly from the sun.

Akeena no longer buys electricity!

Akeena is a company that walks the talk. After having installed a 6kW solar power system in January 2005 to provide for all its power, Akeena Solar no longer has net electrical costs.

In addition to its photovoltaic system, Akeena uses biodiesel in its vehicles whenever possible, composts and recycles in the office, and uses florescent light bulbs. Several employees drive electric or hybrid vehicles and have installed solar systems on their own homes.

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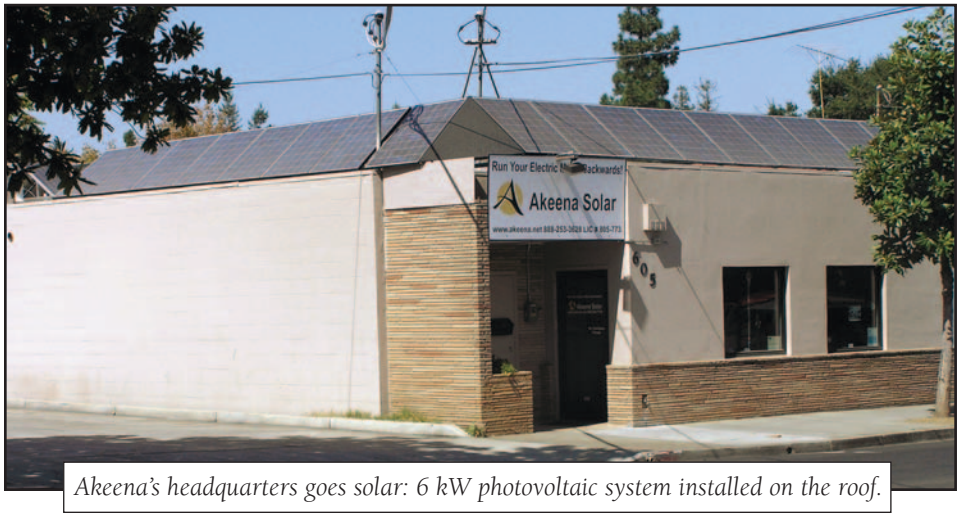


Akeena's headquarters goes solar: 6 kW photovoltaic system installed on the roof.

ALZA Corporation

ALZA Corporation, a Johnson & Johnson (J&J) Company, provides drug delivery solutions with a broad array of technology platforms, including: oral, transdermal, implantable and liposomal technologies. ALZA partners with pharmaceutical and biotechnology companies to develop and manufacture pharmaceutical products.

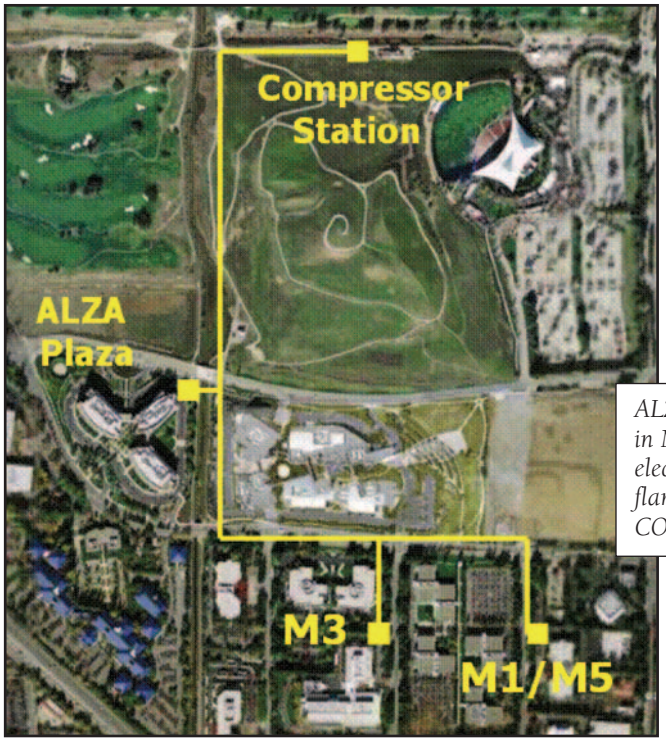
www.alza.com

Closing the loop — using landfill gas for co-generation

ALZA Corporation committed to reduce its CO_2 emissions 7% by 2010, using 1990 as a baseline. ALZA aims to reach this goal via energy efficiency projects, on-site renewable generation, green power purchases and the purchase of landfill gas from the City of Mountain View for use in an on-site co-generation project.

As part of J&J's ENERGY STAR Enhanced Best Practices for energy efficiency,[10] ALZA is currently reviewing its operations in the context of a 10-stage checklist listing 245 individual energy best practices. The best practices list details the recommended upgrades a facility should consider to qualify for the Next Generation Goals. These encompass all of J&J's voluntary pollution prevention partnerships such as ENERGY STAR buildings,[11] Motor Challenge[12] & Climate Leaders.[13] ALZA has been implementing several actions which focus on energy efficient technologies and CO_2 emissions reductions.

The Johnson & Johnson Company has set a target of a 7% absolute CO_2 emissions reduction by 2010 (1990 base year).



ALZA uses methane gas from a closed landfill in Mountain View to generate 3 megawatts of electricity. This gas, which was previously just flared off, provides enough power to reduce CO_2 emissions by 7,000 metric tons per year.

[10] For more information about J&J's ENERGY STAR Enhanced Best Practices for energy efficiency, visit: www.jnj.com/community/environment/index.htm
[11] For more information on ENERGY STAR buildings, visit: www.energystar.gov/
[12] For more information on Motor Challenge, visit: energyefficiency.jrc.cec.eu.int/motorchallenge/
[13] For more information on the US EPA Climate Leaders Program, visit: www.epa.gov/climateleaders/

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

www.baaqmd.gov

BAAQMD actively supports vehicle trip reduction projects and low emission vehicles, works with cities and counties to promote smart growth, and collaborates with community groups on local energy efficiency projects.

"Improving energy efficiency is a critical element of the Air District's mission to improve air quality in the Bay Area. We are very pleased to partner with Sustainable Silicon Valley to help achieve these goals."

Jack P. Broadbent
Executive Officer/Air Pollution Control Officer, Bay Area Air Quality Management District

Bay Area Air Quality Management District

The Bay Area Air Quality Management District (BAAQMD) controls air pollution throughout the nine county Bay Area. Air District programs include regulating stationary sources of air pollution, encouraging alternatives to driving alone, use of low emission motor vehicles, and public education campaigns such as the Spare the Air program.[14]

Energy efficiency is key to improving air quality

Air quality in the Bay Area has improved dramatically over the years, but increasing vehicle use and energy consumption associated with population and employment growth could undermine this progress. Improving air quality and reducing greenhouse gas emissions are closely linked. Major sources of air pollution in the Bay Area, particularly motor vehicles, also produce large quantities of greenhouse gases. In addition, higher temperatures increase the photochemical reactions that form ground-level ozone and also increase emissions of pollutants that form ozone. Reducing energy use in motor vehicles, industrial and commercial facilities, businesses and homes is critical to assuring that Bay Area residents breathe clean air.

The Air District recently established a climate protection program to highlight the connection between air pollution and climate change and to develop additional programs to reduce emissions. Building upon existing programs to reduce emissions from stationary and mobile sources, the Air District will promote energy efficiency through outreach and education, data collection and analysis, technical assistance, and leadership and support for local efforts to reduce greenhouse gas emissions.

Examples of current Air District energy efficiency activities include grants to fund vehicle trip reduction projects and low emission vehicles, working with cities and counties to promote smart growth, and collaborating with community groups on local energy efficiency projects. The Air District also is a member of the California Climate Action Registry.[15]

Turning down the thermostat at the Bay Area Air Quality Management District.

[14] For more information about the Spare The Air program go to www.sparetheair.org.
[15] For more information about the California Climate Action Registry program, visit: *www.climateregistry.org*.

Calpine Corporation

Calpine Corporation is a North American power company dedicated to providing electric power to wholesale and industrial customers from clean, efficient natural gas-fired and geothermal power facilities. It is the world's largest producer of renewable geothermal energy.

Pursuing a low carbon investment strategy

Calpine Corporation[16] has pledged to reduce its U.S. greenhouse gas emissions by 4% per megawatt hour (MWh) from 2003 to 2008. The company's carbon efficiency metric[17] is 0.268 metric tons per megawatt hour (mt/MWh), which is slightly lower than the California average efficiency of 0.275 mt/MWh. It is far below the national fossil-fuel fleet average of 0.877 mt/MWh.

In April 2005, Calpine agreed to partner with the California Energy Commission and the Department of Energy in a geological carbon sequestration project in California.

In May 2004, Calpine's board of directors unanimously agreed to a low carbon investment strategy.[18] The year 2004 also marks the start of the company's performance optimization program, which over the next five years will reduce its fleet-wide heat rates[19] by 4%.

Calpine is a partner of the Climate Leaders Program as well as a member of the California Climate Action Registry program.

www.calpine.com

Calpine has a greenhouse gas emissions reduction goal of 4% per MWh from 2003 to 2008.

Los Esteros Critical Energy Facility supplies clean, efficient natural gas peaking power to the Silicon Valley

[16] For more information about Calpine's Safety, Health and Environment Programs, visit: *www.calpine.com/about/oc_safety.asp*.
[17] Amount of CO_2 produced per MW of energy produced.
[18] Calpine supports programs at the federal, regional and state levels that include appropriate reductions in CO_2 emissions and provide flexible, market-based solutions that will reward the transition from more carbon-intensive generation to efficient, low carbon-intensive generation and renewable power.
[19] Amount of fuel in million British thermal units (MMBTU) to produce one kilowatt hour (kWh) of energy.

www.Cisco.com

Electricity consumption takes a plunge at Cisco Systems' headquarters: 49.5 million kWh/yr. conserved. This equals:

- **savings of $4.5 million/yr. in operating costs;**
- **powering 7,300 homes;[5]**
- **reduction of 23.3 million lbs. of CO_2/yr.;**
- **removal of 2,300 cars from the road.[6]**

"At two of our headquarters sites, which include 4.9 million square feet of space in 25 buildings, we conserve an average of 49.5 million kilowatt hours per year. We expect to save about $4.5 million per year in operating costs. On top of that, those energy savings qualified us for $5.7 million in PG&E rebates when construction was completed."

Nayeem Sheikh
Cisco Systems Facilities Engineer

Cisco Systems

Cisco Systems supplies networking equipment & network management for the Internet. Products include routers, hubs, and ethernet equipment. The company has been developing advanced technologies in areas such as: home networking, Internet telephony, optical storage networking, network security and wireless networking.

Fostering collaboration to get high-impact results

At Cisco Systems, designing and building environmentally sensitive, cost-efficient facilities is an important part of saving money while addressing the climate change issue. Cisco Systems' philosophy for new construction is to "plan it right," which means thinking about energy efficiency during the design phase, before a building is actually constructed. Effective planning requires improved collaboration between groups with different expertise. "We used to have discrete facilities and maintenance groups, which is typical in most companies. Now, those groups operate together. We've combined people who specialize in the design side with people who have day-to-day working familiarity with the buildings to leverage each other's knowledge," says Mike Lavazza, Cisco Systems manager for operations and engineering.

Cisco Systems' new San José headquarters exceeds California's building energy standards by 15% to 20%. The energy savings features earned Cisco Systems $5.7 million in rebates from PG&E, conserved enough energy to power some 7,300 homes, and saved the company $4.5 million per year in operating costs. CO_2 emissions were reduced by 23.3 million pounds per year. Additional savings from equipment upgrades and new operating processes have reduced the company's energy use by about 12.4 million kWh per year, and yielded some $1.25 million dollars in annual savings.

Cisco Systems designs energy efficiency into new buildings from the start.

PLEDGING PARTNERS

City of Palo Alto

Located between San Francisco and San José, Palo Alto is a community of approximately 61,200 residents. Part of the Silicon Valley, the City of Palo Alto is located within Santa Clara County and borders San Mateo County.

Greening its energy portfolio

The City of Palo Alto Utilities' goal is to reach a 20% renewable energy share of total electric supply before 2015.

The City has been reducing its energy use through, among other measures, City-wide implementation of the EZ Save application[20] on all computers to reduce energy use by turning off idle computer monitors. This easy-to-implement measure has saved more than 200,000 kWh per year and more than $17,000.

Palo Alto also uses landfill gas to supply the sludge incinerator at the sewage treatment plant, thereby reducing natural gas use by 50%.

Additionally, the City of Palo Alto plans to reduce CO_2 emissions by 37% at City Hall and 32% at the Wastewater Treatment Facility by 2010, by installing new efficient heating, ventilation and air conditioning technology.

In 2004, thanks in part to its efforts to reduce its energy usage, the City won Acterra's Business Environmental Award[21] in the "Medium Business" category.

Light emitting diode (LED) traffic lights use only 10% of the electricity of traditional incandescent lights, but reduced labor costs may well be the biggest savings from switching to LEDs. Instead of replacing incandescent lights every 2 months, Palo Alto now replaces LED lights once every 10 years.

www.cityofpaloalto.org

City of Palo Alto's goal is to "green" its electricity portfolio by 20% before 2015.

Energy management software saves: $17,000+/yr. and 200,000+ kWh/yr.

Natural gas used for sewage treatment plant operations has been cut in half thanks to the use of landfill gas.

"I'm thrilled to have Palo Alto joining the Sustainable Silicon Valley effort to reduce greenhouse gases – a necessity for the preservation of our planet."

Jim Burch
Mayor, City of Palo Alto

[20] For more information on the EZ Save application, visit: *www.energystar.gov/index.cfm/ia/products/index.cfm?c=power_mgt.pr_power_management.*

[21] For more information on Acterra's Business Environmental Awards program, visit: *www.acterra.org/bea/index.html.*

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY
10th Largest U.S. City

www.sanjoseca.gov

City of San José

San José is the largest city in the Bay Area, and the 10th largest city in the United States. The City has a very diverse community, with a 'majority of minorities' making up more than 50% of its population.

Seizing the opportunity: saving over $13 million in energy costs since 2001

The City of San José has saved more than 100 million kWh and over $13 million in energy costs since 2001 by installing variable speed drives on water pumps, retrofitting lighting and heating, ventilation and air conditioning (HVAC) systems, and encouraging city employees to use energy wisely. The largest savings have been at departments with enterprise funds:[22] the Environmental Services Department/Water Pollution Control Plant, the Airport, and the Convention Center.

In 2003, the City of San José adopted a Sustainable Energy Policy and Action Plan. The purpose of the energy policy is to create a community where energy is generated and used in the most sustainable manner possible.

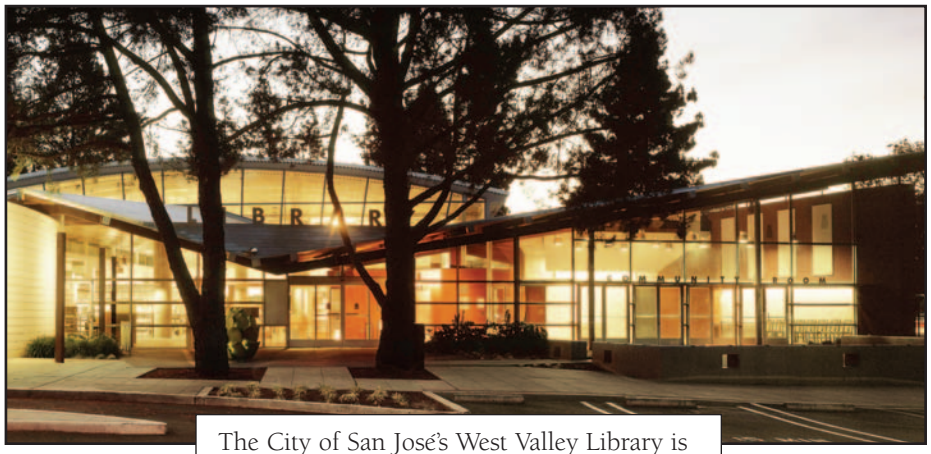
The City has also created a Green Building Program which applies to all new municipal facilities and renovations over 10,000 sq. ft. Under this initiative, the City of San José lays claim to the first Green Building Council Leadership in Energy and Environmental Design (LEED)[23] certified public library in the world.

City of San José reduced its energy bill by more than $13 million since 2001.

The city also has the first *Leadership in Energy and Environmental Design* (LEED) certified public library in the world.

"SSV has created an innovative model by uniting members of the business, government, and environmental communities in a unique partnership that aims to voluntarily reduce CO_2 emissions by 20% before 2010 in the City of San José and the Silicon Valley. This type of initiative needs to be duplicated to further reduce the negative impacts of carbon emissions on our environment."

Linda J. LeZotte
Councilmember, City of San José



The City of San José's West Valley Library is the world's first LEED certified public library.

[22] Enterprise Funds are used to account for operations that are financed and operated in a manner similar to private business enterprises where the intent of the governing body is that the costs and expenses (including depreciation) of providing goods or services to the general public on a continuing basis be financed or recovered primarily through user charges or for operations for which the governing body has decided the periodic determination of revenues earned, expenses incurred, and/or net income is appropriate for capital maintenance, public policy, management control, accountability, or other purposes.

[23] For more information about LEED, visit the US Green Building Council website at: *www.usgbc.org/DisplayPage.aspx?CategoryID=19*.

County of Santa Clara

Santa Clara County is located at the southern end of the San Francisco Bay and encompasses 1,312 square miles. With a population of nearly 1.7 million, the County is one of the largest in the state, and the largest of the nine Bay Area counties. Its population constitutes about one fourth of the Bay Area's total population. The County of Santa Clara encompasses the following 15 cities: Campbell, Cupertino, Gilroy, Los Altos, Los Altos Hills, Los Gatos, Milpitas, Monte Sereno, Morgan Hill, Mountain View, Palo Alto, San José, Santa Clara, Saratoga and Sunnyvale.

www.sccgov.org

Implementing broad-range equipment upgrades and energy conservation measures

During the height of the energy crisis that affected California in 2001 and 2002, the County undertook significant efforts to reduce energy consumption in County-owned and -leased facilities. As of FY 2004, these efforts resulted in an electrical consumption reduction of almost 20% as compared to FY 2001. In order to achieve these results, the County invested over $3.2 million in energy conservation projects, which generated $440,000 in rebates and energy cost savings of nearly $1 million per year. Through these efforts, the County has not only helped mitigate some of the energy cost increases, but has also contributed to the preservation of the environment by reducing an estimated 12.7 million pounds of CO_2.

The County of Santa Clara reduced its electricity use by 20% and cut CO_2 emissions by 12.7 million pounds between 2001 and 2004.

The County utilized a wide range of strategies to achieve these results, including formation of a special Emergency Energy Task Force to oversee the conservation efforts. Conservation measures carried out by the County to reduce its energy consumption include:

- Energy audits
- Installation of real-time electrical power meters
- Chiller replacements
- Installation of cool roofs
- Lighting retrofits
- More energy efficient building operating policies (e.g., raised cooling set-points and reduced heating set-points, reduced building operating hours, etc.)
- Installation of lighting motion sensors
- Water conservation projects (installed low-flow devices)
- Installation of electronic thermostats (replaced inaccurate analog thermostats)
- Development and implementation of energy conservation friendly procurement policies
- Installation and optimization of heating, ventilation and air conditioning economizers
- Adoption of PG&E's "Savings by Design"[24] guidelines for new construction by County's Capital Programs

The successful implementation of these measures required the commitment and leadership of the Board of Supervisors and the County Executive, and of every County agency and department as well. The County continues its commitment to conserving energy and preserving the environment through its energy conservation policies and practices.

[24] For more information about PG&E's Savings by Design program, visit: *www.savingsbydesign.com*.

PLEDGING PARTNERS

www.hp.com

HP Palo Alto's participation in the PaloAltoGreen Program prevented 590,000 pounds of CO_2 emissions over the last year.

"Our participation in Sustainable Silicon Valley allows us to openly demonstrate the progress of our climate change programs."

David Lear
Vice President of Corporate, Social and Environmental Responsibility, HP

Hewlett-Packard Company

Hewlett-Packard Company (HP) is one of the largest consumer and enterprise information technology companies in the world. HP technology ranges from consumer handheld devices to some of the world's largest and most powerful supercomputer installations.

The Hewlett-Packard Palo Alto site started buying 3% green power from PaloAltoGreen in April of 2004, and is doing so again this year. HP's support of wind and solar power through PaloAltoGreen prevents a release of an estimated 590,000 pounds of CO_2 into the atmosphere annually.

In 2003, HP set a goal to achieve a 50 million kWh reduction in annualized electricity use globally during 2004. The company exceeded its goal by delivering greater than 60 million kWh in annual energy savings. Maintenance and operational improvements, efficiency projects and employee involvement generated these savings.

In addition to maintenance and operational improvements and efficiency projects (e.g. server energy efficiency increased by more than 35%), strong employee involvement and resources conservation education programs have been the key to HP's success in reducing its energy use.

Since 1992, HP has participated in the U.S. Environmental Protection Agency's ENERGY STAR® voluntary energy efficiency program. More than 1,000 HP products are ENERGY STAR qualified. Over 94% of eligible products from their Personal Systems Group and 98.5% of eligible products from their Imaging and Printing Group meet ENERGY STAR criteria.

Becoming a star in the U.S. EPA's ENERGY STAR® million monitor drive

HP is a member of the U.S. EPA's ENERGY STAR Million Monitor Drive,[25] which is intended to demonstrate how individual work habits can affect energy conservation. As a part of this initiative, HP changed the PC monitor setting on all of its computers worldwide, automatically shutting off monitors after twenty minutes of inactivity. This is expected to save 7.8 million kWh annually.

CHANGE FOR THE BETTER WITH ENERGY STAR

[25] For more information on EPA's ENERGY STAR® Million Monitor Drive, visit: *www.energystar.gov/index.cfm?c=pm_mmd.pr_pm_mmd.*

PLEDGING PARTNERS

LifeScan, Inc.

LifeScan, Inc. is part of the Johnson & Johnson (J&J) family of companies and manufactures blood glucose monitoring systems for people with diabetes. By eliminating wiping and timing procedures, its OneTouch™ Systems helped bring blood glucose testing out of the laboratory and into the hands of patients.

Implementing green purchasing policies & buying "green tags"

LifeScan sites in Milpitas and Cabo Rojo have realized combined energy cost savings of $1.3 million per year through energy conservation projects including heating, ventilation and air conditioning upgrades and chiller retrofits.

These changes in technology are accompanied by the implementation of purchasing policies that further reduce LifeScan's overall energy consumption (e.g. green purchasing policy).

Furthermore, the company has allocated $240 million for CO_2 reduction projects, demonstrating top-management commitment to addressing the global climate change issue.

LifeScan achieved a reduction of CO_2 emissions by 22.4% (2001 baseline) in 2005. In addition to technologies and policies that support this goal, purchases of green energy offsets (e.g. "green tags") also play an important role in LifeScan's climate change strategy.

Energy conservation projects yield $1.3 million of cost savings/yr. for LifeScan's Milpitas and Cabo Rojo sites.

$240 million allocated to CO_2 reduction projects.

Achieved CO_2 emissions reduction target of 22.4% in 2005 (2001 baseline).

www.lifescan.com

"Johnson & Johnson is committed to a 7% absolute reduction in CO_2 emissions from all of our facilities worldwide by 2010, compared to 1990. An important element of our strategy to meet this goal is to partner with organizations like the Sustainable Silicon Valley Initiative, that provide leadership and innovative approaches. One of SSV's core strengths is to bring together businesses, government and non-profit organizations in a common cause. This cooperation helps enable the Johnson & Johnson companies in the Silicon Valley area to achieve their sustainability goals."

Dennis Canavan
Executive Director, Energy Management, Johnson & Johnson Companies

Lockheed Martin Space Systems Company

Lockheed Martin Space Systems Company employs about 130,000 people worldwide and is principally engaged in the research, design, development, manufacture, and integration of advanced technology systems, products, and services. The company operates 939 facilities in 457 cities and 45 states throughout the U.S.

Committing to large-scale renewable energy purchases

Lockheed Martin Space Systems Company has been participating in the PaloAltoGreen program since April 2004, with a commitment to buy 150,000 kWh/month of renewable energy from the City of Palo Alto Utilities. In 2004, Lockheed bought 1.2 million kWh of renewable energy.

www.lockheedmartin.com

www.arc.nasa.gov

NASA Ames Research Center has adopted a CO_2 emissions reduction target of 30% below 1990 levels by 2010.

NASA Ames has invested $4.5 million in energy efficient equipment and facility management control systems over the last 4 years.

The organization has also adopted U.S. Green Building Council LEED Silver rating principles in 2003 for guidance on new construction projects.

NASA Ames Research Center

Founded in 1939, the Ames Research Center has grown and evolved into a premier research facility in support of National Aeronautics and Space Administration (NASA) and the scientific community. Located in Silicon Valley, NASA Ames has created partnerships with leading universities and high-technology industry leaders to push the boundaries of human understanding. Projects and research areas include astrobiology, human factors, rotorcraft, information technology, thermal protection, nanotechnology, air traffic control, Stratospheric Observatory for Infrared Astronomy, and the Robotic Lunar Exploration Program.

Upgrading lighting and adopting LEED-based sustainable design principles

Ames Research Center, a NASA center with over 3,000 employees, has committed to reduce CO_2 emissions 30% by 2010 (based on 1990 levels).

To date, Ames has re-lamped over 50 buildings with T-8 fluorescent lighting (which has cut CO_2 emissions by nearly 900 tons annually), and installed power-monitoring control systems in 10 buildings to enable remote monitoring and more efficient control of power consumption during facility operation. Ames has also installed 10 kilowatts of photovoltaic arrays on building rooftops. In the past year, Ames has been evaluating lighting practices in warehouse areas where lights are on for long periods, such as Hangar 2, and posting signs to remind employees to turn off lights in these areas when unoccupied. Since 1990, Ames has reduced its overall energy use 94,000 MWh per year, which is a reduction of 30 KWh/square foot of facilities.

In 2003, NASA Ames adopted LEED Silver rating principles to guide development of the proposed NASA Ames Research Park at Moffett Field and NASA Ames construction of facilities projects. As a result, all major new construction at Ames must meet the LEED Silver rating.

Static photovoltaic array mounted to the roof-rack system of the NASA Ames Cafeteria (N-235). This is one of two roof-top arrays that provide a combined 10 kW of electricity.

Wind power provides electricity to the sump pump for the Ames storm water settling basin.

Oracle

www.oracle.com

Oracle is one of the world's largest enterprise software companies. For nearly three decades, the company has provided the software and services that let organizations get up-to-date and accurate information from their business systems.

Aiming to reduce building energy use by 20% below 2003 levels by 2015

The company's Redwood Shores campus—located in Redwood City—is corporate-owned and represents over 90% of Oracle's total building area in the Silicon Valley.

Oracle started an intensive program for energy use reduction in a subset of the Redwood Shores headquarters buildings consisting of over 1.82 million square feet of the nearly 1.99 million square-foot campus. The subset included all headquarters buildings powered by the Oracle substation at the start of 2001, except the buildings on Island Parkway. Success in energy conservation and efficiency reduced energy use and power demand, and created enough spare capacity on the Oracle substation that the 163,000 square-foot Island Parkway buildings were connected to the Oracle substation in 2003 to leverage cheaper power rates and higher reliability.

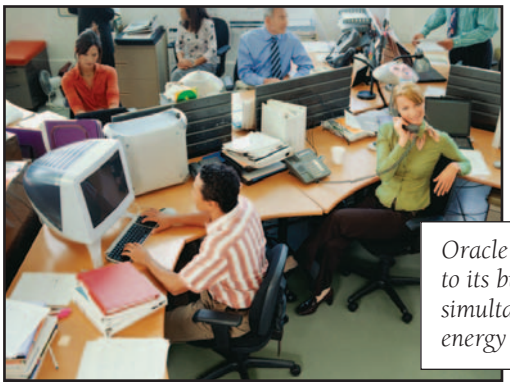
Since the California energy crisis of 2000-2001, Oracle has successfully managed to reduce energy use in this 1.82 million square-foot subset of its buildings. For example, Oracle saved 10.5% in energy use in 2001, 9.3% in 2002, 11.7% in 2003, and 12.4% in 2004, compared to the base year of 2000. These savings were achieved despite the fact that the actual number of employees in these buildings had increased.[26]

Oracle's headquarters saved from 10-12% in energy use per year from 2001-2004 (2000 base year).

Oracle's target is to reduce building energy use by 20% by 2015, based on 2003 levels.

Oracle's policy is to maintain its facilities and run its business operations in a manner that minimizes any adverse impact on the environment, improves its energy use performance and reduces global greenhouse gas emissions. The company's focus on energy efficiency and conservation is primarily directed to lighting, cooling, heating, and other miscellaneous uses in buildings. The company's computing equipment has been kept operating on demand, and Oracle has to rely on the computing equipment vendors to improve equipment energy efficiency. However, Oracle uses U.S. EPA ENERGY STAR products whenever practical and available.

Oracle has set a target to achieve energy reductions in alignment with the Governor's recent executive order for the public sector, that sets energy performance goals for state buildings. This order calls for a 20% reduction in energy by 2015 compared to the 2003 base year. This target at Oracle applies to building energy use and not to the computer-intensive applications such as data centers and computer labs.



Oracle added employees to its buildings while simultaneously cutting energy use.

[26] See report from the Natural Resources Defense Council entitled, *Energy Efficiency Leadership in California*, in 2003 on the state of California energy conservation at: www.nrdc.org/air/energy/eecal/eecal.pdf.

Pacific Gas and Electric Company®

www.pge.com

PG&E's energy efficiency programs will save 665 gigawatt hours statewide.

"Climate change is an issue that can pose significant risks and challenges to us as a business, but it also can provide opportunities as a driver for finding new and better ways to generate, procure, and deliver electricity and gas to our customers. We are proud of our efforts to lead on climate change–from supporting policies that would limit the greenhouse gases emitted by our industry, to encouraging customers to reduce their electricity usage, to increasing our fleet of alternative-fueled vehicles."

Bob Harris
PG&E's VP
Environmental Affairs

Pacific Gas and Electric Company

Pacific Gas and Electric Company (PG&E) delivers gas and electricity service to 14 million Californians. Nearly 20,000 employees work together to satisfy customers and to find more innovative, cost-efficient, and environmentally responsible ways to provide these vital services.

Saving energy instead of building more power plants

PG&E delivers some of the cleanest electricity in America. Serving almost 5% of the United States population, they emit less than 1% of the U.S. CO_2 emissions associated with the generation of electric power. PG&E is the first investor-owned utility in California to have its inventory of CO_2 emissions certified by an independent third party, the Climate Action Registry, which selected PG&E to be the private sector recipient of the Climate Action Champion Award. In 2004, PG&E increased the representation of natural gas vehicles (NGVs) in its fleet to 882, which represents about 8% of its fleet. Also in 2004, PG&E worked with the Stanislaus County Public Works Department in Modesto to open a compressed natural gas fueling station, which will serve seven new Orion natural gas-fueled transit buses.

The company has continued to identify ways to reduce the leak rate of sulfur hexafluoride (SF_6)[27] associated with insulating electrical transmission and distribution equipment. Since 1998, the company has reduced its leak rate by more than 50% and absolute emissions of SF_6 by approximately 40%. Achieving these reductions is significant because SF_6 is an extremely potent greenhouse gas, approximately 24,000 times more potent per unit of weight than CO_2.

Charlie Boyle (right), gas crew foreman, and Robert Hansen, fieldman, on assignment in San Francisco with one of PG&E's natural gas-fuel, heavy-duty, gas crew trucks.

[27] Among the six main greenhouse gases contributing to global warming, SF_6 is the most highly potent greenhouse gas known to-date. Because its Global Warming Potential value is far bigger than the one for CO_2, even small amount of SF_6 can have a significant impact on global climate change. SF_6 is generated in a variety of industrial processes.

PLEDGING PARTNERS

PG&E has provided leadership in energy efficiency: helping to establish the California Clean Energy Fund, which supports research and investment in clean energy technologies, including those that focus on energy efficiency, demand response, renewable generation, and the entire range of more environmentally friendly options for meeting load growth. It supports the adoption of new energy efficiency standards for electric appliances, which will save close to 665 gigawatt hours of electricity statewide. A total of fourteen statewide, four local and nine partnership energy efficiency programs have paid customers in excess of $57 million in energy efficiency rebates, and achieved savings of 117 MW, or 620,000 MWh — enough electricity to power approximately 91,553 homes for a year.[5] PG&E's expenditures for customer energy efficiency programs have increased by $25 million through integrating energy efficiency into their long-term procurement portfolio. Over the next decade, they plan to invest nearly $2 billion in customer energy efficiency programs.

Roche Palo Alto

Roche is a leading healthcare company with a broad spectrum of innovative solutions. For more than 100 years, Roche has been active in the discovery, development, manufacture and marketing of novel healthcare solutions. The company's products and services address prevention, diagnosis and treatment of diseases. Roche has two operative divisions: Pharmaceuticals and Diagnostics.

www.roche.com

Making a big difference for a small campus

Roche has a corporate-wide goal to reduce energy use by 10% over the next 5 years. The Roche Palo Alto campus, with 1000 employees in 17 buildings on 64 acres, is well ahead of this goal. Since 2000, natural gas use has been reduced 32%, electricity use has been reduced 36%, year-to-date electricity use is down 7.7% from 2004. Energy cost savings in 2004, as compared to 2000 were more than $2 million for electricity and $780,000 for natural gas.

In addition to being one of the corporations with the largest commitment to PaloAltoGreen, Roche Palo Alto was recently certified by Santa Clara County as a Green Business.

Roche Palo Alto has saved more than $2.5 million in energy costs between 2000-2004.

The corporate-wide goal is to reduce energy use by 10% by 2009.

The Roche Palo Alto site electric vehicle fleet. Roche is the first pharmaceutical company in the United States that is planning to equip an entire sales team with hybrid vehicles.

www.valleywater.org

SCVWD's photovoltaic system avoids emissions of more than 450,000 lbs. of CO_2.

"The Santa Clara Valley Water District's partnership in Sustainable Silicon Valley's CO_2 Initiative is a key strategy for managing the risks of global warming to Santa Clara County's water supply. Santa Clara County imports about half of its annual water supply through the Bay-Delta. While effects on local and regional rainfall are difficult to predict, some global climate models forecast less rainfall for the state, with a decreased snowpack and earlier spring melts. That would mean a decrease in imported water supplies to Santa Clara County and potentially less rainfall locally. The Bay-Delta, Santa Clara County baylands areas and low areas in several cities would also be affected by sea-level rise associated with global warming, increasing the likelihood of flooding and levee failure. This partnership also enables the Water District to measure the success of efforts to decrease CO_2 emissions, such as a 200 kilowatt solar project completed in 2004 that is removing an estimated 413,000 pounds of carbon dioxide a year from the atmosphere."

Stan Williams
CEO, SCVWD

Santa Clara Valley Water District

The Santa Clara Valley Water District (SCVWD) manages wholesale drinking water resources and provides stewardship for the county's five watersheds, including 10 reservoirs and more than 800 miles of streams and groundwater basins. The Water District also provides flood protection throughout Santa Clara County.

Innovative technology cuts CO_2 emissions by 459,350 pounds

SCVWD's Almaden headquarters campus was responsible for reducing approximately 459,350 lbs. of CO_2 emissions from August 2004 to August 2005, thanks to the headquarters campus' photovoltaic generation of approximately 370,450 kWh of electricity. This was approximately 10% of the campus' 3.5 million kWh annual electrical power consumption. The District's goal is to continue the 10% CO_2 reduction during the next 12 months.

Further, the District completed a major heating, ventilation and air conditioning (HVAC) replacement and system renovation project that will significantly enhance the efficiency of the District's HVAC system operation.

Electricity on top—shade below. The Santa Clara Valley Water District headquarters' campus solar energy project, including this photovoltaic carport, generated approximately 370,450 kWh of electricity in its first year of operation.

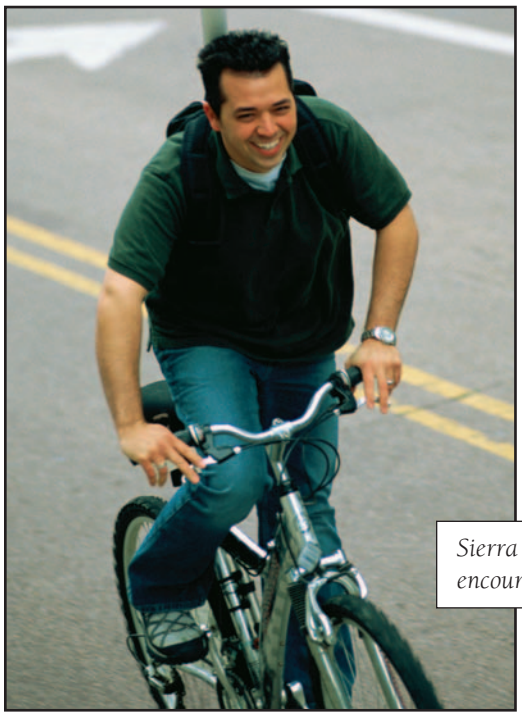
PLEDGING PARTNERS

Sierra Club Loma Prieta Chapter

The Sierra Club Loma Prieta Chapter is a grassroots organization with over 24,000 members. It advocates for policies that protect and enhance our natural environment, offers hikes and outdoor recreation activities for people of all ages, supports candidates for public office who have shown a commitment to environmental protection, publishes an environmental newsletter, and provides volunteer opportunities for people who want to help the environment and give back to the community. The Chapter is governed by an all-volunteer Executive Committee elected by the membership.

Leading by example: inspiring its members

The Sierra Club Loma Prieta Chapter, in cooperation with the Peninsula Conservation Center, has initiated actions to reduce the greenhouse gas emissions resulting from Chapter office operations. As a first priority, Chapter employees and governing committee members are encouraged to make behavior modifications in their travel to and from the Chapter office (e.g., carpooling, bicycling, mass transit, teleconferencing), in order to reduce their personal greenhouse gas emissions. Greenhouse gas emissions that cannot reasonably be reduced are then offset with equivalent CO_2 savings achieved through the purchase of "Green Tags" or Green Certificates from 3 Phases Energy, which represent the environmental benefits created when electricity is generated from renewable resources (e.g., wind, solar, biomass, geothermal) instead of fossil fuels.



Sierra Club employees are encouraged to bike to work.

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Green Tags compensate for CO_2 emissions.

"The Sierra Club is not only committed to reducing the CO_2 from our Chapter office operations, we are also actively educating the general public, area businesses and municipalities about the impending consequences of global warming, and the readily available methods for reducing the emissions of CO_2 and other greenhouse gases into the atmosphere. SSV's Carbon Dioxide Emissions Reduction Initiative provides an excellent opportunity for the Sierra Club to join with businesses, municipalities, and other non-governmental organizations in taking steps that will have a meaningful impact on reducing regional CO_2 emissions."

Melissa Hippard
Director, Sierra Club
Loma Prieta Chapter

MAKING THE PLEDGE

Getting started with SSV

Starting the process of becoming more energy efficient and reducing CO_2 emissions is easy. Here are the steps towards full pledging participation in SSV:

- Sign up for more information: E-mail us with your questions. We will answer your questions about SSV, and will send you information about our upcoming educational forums, events and meetings. ***Contact us at: info@SustainableSiliconValley.org***

- Attend an SSV meeting or forum: You will gain a better understanding of the organization and discover the value of information-sharing among participants.

- Make a voluntary pledge to reduce CO_2: You can customize your pledge to your organization's situation. Pledging provides an incentive to keep your organization moving towards its goals. View the pledge letter at the end of this report or at: www.SustainableSiliconValley.org/Sample_pledge_letter_12-04.doc

- Share your progress with fellow participants: Once you are participating, you will become a valuable resource to others, having learned from your own efforts and outcomes.

- Report annually: Annual reporting is made easy by SSV's tools and the experience of other participants, and reporting helps you monitor your progress. "What gets measured, gets managed. What gets managed, gets done."

- Gain recognition: Enjoy recognition from SSV, the press and the community for your steps in improving the environment, saving energy and saving money.

SSV quarterly educational forums

SSV hosts ongoing educational forums where participants share stories of success and lessons learned, and hear from energy services companies and vendors' exhibits about available approaches to CO_2 reduction.

SSV ENERGY STAR Enhanced Best Practices Workgroup

LifeScan, Inc., a Johnson & Johnson company, has made an unprecedented offer to share its ENERGY STAR Enhanced Best Practices and to collaborate with SSV participants to develop their own programs. The training sequence follows the best practices outlined in the ENERGY STAR Enhanced Best Practices program. Participants will receive training packages for each phase, including the proven techniques recorded by LifeScan in its Energy Management Program Plan. This is a step-by-step "how to" document. For example, Phase 1 for the first year covers Green Lights, a program to evaluate current lighting equipment and its energy demands. Specialized tools and calculators developed by Johnson & Johnson to project cost estimates and return on investment will be available as part of the training kit. Johnson & Johnson and LifeScan are committed to assist SSV participants to set goals, estimate costs, with an ultimate goal to help reduce the bottom line off the energy bill and reduce CO_2 emissions.

Sustainable Silicon Valley Pledge to Participate

(Sample letter written on organization's letterhead and signed by a responsible officer of the organization)

Date

Ms. Jennifer Smith Grubb
President
Sustainable Silicon Valley
224 Airport Parkway, Suite 620
San José, CA 95110

Dear Ms. Smith Grubb:

(Organization) is pleased to support the efforts of Sustainable Silicon Valley (SSV) and hereby commits to take part in SSV's Carbon Dioxide Emissions Reduction Initiative.

The following facilities and their associated Standard Industrial Classification (SIC) Code are included in this commitment:

1. ___(address)_____; SIC Code _____
2. ___(address)_____; SIC Code _____
3. ___(address)_____; SIC Code _____

As we make this commitment we understand that by (date), we will prepare a report to SSV for the facilities identified above for a twelve (12) month period. In this report we will identify:

1. a baseline reporting year for each facility, 1990 or later;
2. a goal for CO_2 emissions reduction (percentage and year) for each facility;
3. a normalizing factor (optional) for each facility;
4. the amount of electricity and natural gas used in each facility annually since the base year selected;
5. the amount of diesel and/or gasoline used in each facility for any or all of the following: fleet, employee business use of personal vehicles, employee commuting (optional clause for each facility);
6. a comparison of energy use (or CO_2 emissions) reported for each facility in the current year to the base year; and
7. a brief description (one-two paragraphs) of some (two-five) of the key actions taken that led to the decreasing emissions of CO_2. We understand that this information will likely be shared with others as "best practices" and included in SSV's annual reports with or without (at our option) attribution.

Energy use will be reported either in kWh of electricity, therms of natural gas and gallons of diesel/gasoline or in pounds/tons of annual CO_2 emissions. If we choose to normalize our energy use/CO_2 emissions, we will also include the normalizing factor in this annual report. If we get better data after submitting our annual report to SSV, for example, more accurate or comprehensive data or data certified by a third party, we will submit the improved data.

We also understand that the SSV Carbon Dioxide Emissions Reduction Initiative is a voluntary project; there are no sanctions for our failing to meet our goal. Nonetheless, we will make a concerted effort to reach the goal established.

The following person is the point of contact for our organization for this project: (name), (address), (telephone), and (email).

Sincerely,

Signature

Typed name and title

Sustainable Silicon Valley Participants

PARTICIPANTS

Throughout its existence, SSV has benefited from the participation and expertise of diverse individuals from public, private, non-profit and educational organizations. Participating organizations over the last five years include:

3 Phases Energy • Acterra • Agilent Technologies, Inc. • Akeena Solar • ALZA • AMD • American Lung Association • Apple • Applied Materials • Arare Ventures • Arup • Assemblymember Ira Ruskin's Office • AT&T • Bay Area Air Quality Management District • Bay Area Water Supply and Conservation Agency • Bay Institute • California Environmental Protection Agency • Calpine • Cisco Systems • City of Palo Alto • City of San José • City of Sunnyvale • Clean Water Action • Comcast • Convectiv Consulting • County of San Mateo • County of Santa Clara • De Anza Community College • EcoPulse • Enviru • Fat Spaniel Technologies • Ferreira Energy Service • Flex Your Power • Foundation for Global Community • Genentech • Green Financing • Headway Technologies • Hewlett-Packard • Hitachi • IBM • ICLEI–Local Governments for Sustainability • Integrated Design Associates • Invesys Building Systems • Johnson & Johnson • Let's Gaggle • LifeScan • Lockheed Martin Space Systems Company • LSI Logic • MACH Energy • Mehta Associates • Natural Resources Defense Council • NASA Ames Research Center • Office of Senator Dianne Feinstein • Oracle • Our City Forest • Pacific Gas and Electric Company • Pacific Institute • Rita Norton and Associates • Roche Palo Alto • San Francisco State University • San José State University • Santa Clara University • Santa Clara Valley Water District • Sierra Club, Loma Prieta Chapter • Silicon Valley Environmental Partnership • Silicon Valley Leadership Group • Silicon Valley Toxics Coalition • Solectron • Space Systems Loral • Sustainable San Mateo • Stanford University • United Nations Environmental Program • WattStopper/LeGrand • WSP Environmental • Yamas Controls

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